Safety Data Sheet (SDS)

Fly Ash

1. Identification

TRADE NAME(S):	Fly ash
SYNONYMS and/or GRADES:	Biomass Fuel Ash, Wood Boiler Ash, Wood Fly Ash
PRODUCY USES:	May be used as but not limited to road base material filler for concrete and soil stabilizer.
CHEMICAL NAME/CLASS:	Carbonaceous residue remaining on fabric filters after combustion of wood and biomass fuel in a boiler. Meets Class 3 landfill disposal requirements.
MANUFACTURER'S NAME:	Desert View Power
ADDRESS:	62300 Gene Welmas Drive Mecca Ca 92254
EMERGANCY PHONE:	(760) 396-2554
BUSINESS PHONE:	(760) 396-2554
REVISED DATE:	March 12, 2016

2. Hazard (s) Identification

GHS Classification:

Acute Toxicity Oral - Category 4
Acute Toxicity Inhalation - Category 4
Skin Corrosion/Irritation - Category 2
Eye Damage - Category 2A
Carcinogenicity - Category 1A
Specific Target Organ Toxicity Repeat Exposure - Category 1
Hazardous to the Aquatic Environment - Category 4

GHS LABEL ELEMENTS: Symbol (s)

2. Hazard (s) Identification cont...

Signal Word: Danger

Hazard Statements: Harmful if swallowed or inhaled. Causes skin irritation. Causes serious eye irritation. May cause cancer. Causes damage to organs (respiratory system) through prolonged or repeated exposure. May cause long lasting harmful effects to aquatic life.

Precautionary Statements: Prevention Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.

Response Statements: If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before re\use.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention

Disposal: Dispose of contents/container in accordance with local/ regional/national/international regulations.

3. Composition/Information on Ingredients cont...

General Product Information: Trace amounts of various elements including but not limited to arsenic, antimony, carbon, lead, nickel, molybdenum, chromium, barium, mercury, selenium, beryllium, cadmium and zinc may be detected in flyash as a result of their presence in the source.

3. Composition/Information on Ingredients cont...

Substance	CAS	Percent
Fly Ash as Particulate (NOR)	69012-84-6	
Calcium Carbonate	471-34-1	25-35
Calcium oxide	1305-78-8	15-20
Potassium oxide	12136-45-7	3-6
Crystalline Silica	1408-60-7	>2

4. First Aid Measures

First Aid: Eyes In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, including under the lids. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

First Aid: Skin If irritation occurs, flush skin with plenty of water. In some cases - e.g., large amounts of flyash still present on the skin – before wetting the product / skin, it may be advisable or appropriate to gently brush - AVOID the generation of dust – the bulk of the flyash from the skin.
Call physician if irritation persists

First Aid: Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If conscious and capable of swallowing, rinse month thoroughly with water and then drink plenty of water to dilute the material in the stomach. Get medical attention immediately.

First Aid: Inhalation Remove to fresh air. Seek medical help if coughing and other symptoms do not subside

5. Fire Fighting Measures

General Fire Hazards: Not flammable. Firefighters should wear full protective gear.

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: None

6. Accidental Release Measures

Personal Precautions and Protective Equipment: Wear appropriate protective equipment and clothing during clean-up.

Recovery and Neutralization of Materials and Methods for Clean-Up: Use scooping, water spraying/flushing/misting or ventilated vacuum cleaning systems to clean up spills. Do not use pressurized air.

Emergency Measures: Contain the spill or leak. Avoid generating dust. Do not touch the spilled material. Isolate area. Keep unnecessary personnel away.

Environmental Precautions: This material is a water pollutant: prevent material from entering drains, sewers, ditches or waterways.

7. Handling and Storage

Handling Procedures: Avoid contact with skin and eyes. Minimize dust generation and accumulation. Avoid breathing dust. Wear the appropriate respiratory protection against dust in poorly ventilated areas and if TLV is exceeded. Wear the appropriate eye protection against dust. Use good safety and industrial hygiene practices.

Storage Procedures: Minimize dust produced during loading and unloading. Store in ventilated area away from sources of heat, moisture and incompatible materials.

Incompatibilities: Strong acids, Boric oxide, Boron Trifluoride, Phosphorus pentoxide, Chlorates, Chlorine Trifluoride, Chlorine, Ammonium salts and Fluorine.
Moisture (reaction may generate heat).

8. Exposure Controls / Personal Protection

Component Exposure Limits:

Calcium oxide (1305-78-8)
ACGIH: 2 mg/m3 TWA
OSHA: 5 mg/m3 TWA
NIOSH: 2 mg/m3 TWA

Calcium Carbonate (471-34-1)
ACGIH: None Listed
OSHA: 5 mg/m3 TWA
NIOSH: 10 mg/m3 TWA

8. Exposure Controls / Personal Protection continued…

Component Exposure Limits:

Potassium oxide (12136-45-7)
ACGIH: not established
OSHA: not established
NIOSH: not established

Silica, Crystalline (14808-60-7)
ACGIH: 0.025 mg/m3
OSHA: 10 / (%Sio2 + 2)
NIOSH: 0.05 mg/m3

Personal Protective Equipment (PPE):

Respiratory protection: Wear a NIOSH-approved particulate respirator if exposure to airborne particulates is unavoidable and where occupational exposure limits may be exceeded

Eye and face protection: If eye contact is possible, wear protective glasses with side shields or dust goggles, as appropriate. Avoid contact lenses

Hand and skin protection: Wear gloves and protective clothing. Wash hands with soap and water after contact with material

9. Physical and Chemical Properties

Appearance: Opaque fine powder
Odor: None
Physical State: Solid/Fine Powder
pH: >12.3 <12.6 (in water)
Vapor Pressure: Not Applicable
Vapor Density: Not Applicable
Boiling Point: Not Applicable
Melting Point: Not Applicable
Solubility (H2O): Mostly insoluble
Specific Gravity: 2.2-3.4
Evaporation Rate: Not Applicable
VOC: Not Determined
Flash Point: Not Determined
Auto Ignition: Not Determined
Upper Flammability Limit (UFL): Not Determined
Lower Flammability Limit (LFL): Not Determined
N-Octane/H2O Coefficient: Not Determined

10. Stability and Reactivity

Chemical Stability: The material is stable under normal use condition

Hazardous Reaction Potential: The material is a relatively stable, inert material. Polymerization will not occur. However, when ash containing added ammonia becomes wet under high pH (>9), free ammonia gas may be released, resulting in an objectionable/nuisance ammonia odor and potential exposure to ammonia gas, especially in confined spaces.

Conditions to Avoid: The flyash, particularly if moist or wet - or in solutions may be corrosive to metals.

Hazardous Decomposition Products:

Reacts with water to form calcium hydroxide. Calcium hydroxide and water solution can be irritating and corrosive.

11. Toxicological Information

Acute Toxicity:

Ashes, residues (68131-74-8) Oral LD50
Rat >2000 mg/kg

Calcium oxide (1305-78-8) Oral LD50
Rat 500 mg/kg

Calcium Carbonate (471-34-1) Oral LD50
Rat 6450 mg/kg

Potassium oxide (1236-45-7) Oral LD50
Not Established

Crystalline Silica (1408-60-7) Oral LD50
Rat >22,500 mg/kg

Potential Health Effects Skin: May cause skin irritation. May cause burns in the presence of moisture .

11. Toxicological Information cont...

Potential Health Effects Eye: May cause chemical burns. Causes irritation (possibly severe).

Potential Health Effects Ingestion:

May be harmful if swallowed. May cause stomach distress, nausea or vomiting. May cause burning of mouth, throat and esophagus.

Potential Health Effects Inhalation:

Exposure to dust generated during the handling or use of the product may irritate eyes, skin, nose, throat and upper respiratory tract.

Respiratory Organs Sensitization/Skin Sensitization:

This product is not reported to have any sensitization effects.

Reproductive Toxicity: This product is not reported to have any reproductive toxicity effects.

Carcinogenicity General Product Information:

May cause cancer. Prolonged or repeated exposure to airborne free crystalline silica can result in lung disease and/or lung cancer .

Other Toxicological Information:

Repeated exposure to calcium oxide has shown to cause ulceration of the nasal septum, bronchitis and pneumonia. Chronic inhalation of silica quartz may cause autoimmune disease. Chronic exposure to an ingredient in this mixture has been reported to cause renal injury and adverse effects on visual acuity.

12. Ecological Information

Environmental Fate: Materials can be used as an soil amendment, concrete filler, road base and is suitable for land fill.

This product may cause long-term adverse effects in the aquatic environment.

12. Ecological Information cont...

Calcium oxide (1305-78-8)	Test & Species 96 Hr LC50 Cyprinus carpio 1070 mg/L [static]
Ashes, residues (68131-74-8)	Test & Species 24 Hr EC50 Daphnia magna 140 - 2000 mg/L

13. Disposal Considerations

Dispose of all waste product and containers in accordance with federal, state and local regulations.

See Sections 7 and 8 above for safe handling and use, including appropriate hygienic practices.

14. Transport Information

Mode Land, Air or Water:	Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG) regulations.
Shipping Name:	Not Regulated
Hazard Class:	Not Regulated
ID Number:	Not Regulated

15. Regulatory Information

TSCA Inventory Status:	All components are listed on the TSCA Inventory.
California Proposition 65:	The following substances are known to the State of California to be carcinogens. * Respirable crystalline silica
OSHA:	Fly ash and all listed ingredients are considered by OSHA to be hazardous chemicals or irritants and should be included in the employers hazardous communication program.

15. Regulatory Information cont...

SARA 313: Wood fly ash is not a SARA 313 substance.

SARA 311/312: This product has been reviewed under SARA Title III Section 311 & 312 and has been determined to meet the following categories:

An immediate health hazard	Yes
A delayed (chronic) health hazard	Yes
A corrosive hazard	No
A fire hazard	No
A reactive hazard	No
A sudden release hazard	No

FDA: Not intended for use as a food additive or food contact item.

16. Additional Information

Date Prepared: 03/12/2016

Prepared By: Desert View Power Safety & Environmental Office

Abbreviations and Acronyms

ACGIH:	American Conference of Industrial Hygienists
OSHA:	Occupational Safety and Health Administration
NIOSH:	National Institute of Occupational Safety and Health
TSCA:	Toxic Substances Control Act
GHS:	Globally Harmonized System
EC50:	Effective Concentration That Inhibits the Endpoint to 50% of Control Population
LD50:	Dose resulting in the mortality of 50% of an animal population
LC50:	Concentration resulting in the mortality of 50% of an animal population
VOC:	Volatile Organic Compound
NOR:	Not Otherwise Regulated

16. Additional Information cont...

Hazardous Material Information System (HMIS):

Health	1 *
Flammability 0	0
Physical Hazard 0	0
Protective Equipment	B

* For further information on health effects, see Sections 2, 8 and 11 of this MSDS.

WHMIS Classification: Controlled product—calcium carbonate: E (corrosive)

Other Information

The information contained in this Safety Data Sheet is based on the experience of the safety & environmental professionals at Desert View Power and comes from sources believed to be accurate or otherwise technically correct at the time of preparation. It is the responsibility of the user to investigate and understand other pertinent sources of information, and to comply with all laws and procedures applicable to the safe handling and use of the product. It is also the users responsibility to determine the suitability of the product for its intended end use.